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ABSTRACT

This report summarizes activities of the National Center on Educational Outcomes directed at producing a report on the status of students with disabilities from the secondary analysis of state-collected achievement data. Although 27 states reported that large-scale achievement data were available for some students with disabilities, potentially usable data were obtained from only six states. The reasons that database files could not be obtained for 21 of the 27 states include: among others unreliable coding or no coding of students with disabilities in data file, aggregate and not individual data available, data file unreadable or appeared to contain errors, confidentiality concerns expressed by state, and excessive acquisition costs for data files. Analysis of achievement data from the six states revealed other problems, such as sparse data at individual grade levels, noncomparability of types of data, variable or no identification of student disability characteristics, and exclusion of large proportions of students with disabilities. It was concluded that it is currently not possible to produce a synthesis report on the achievement status of students with disabilities from aggregated state databases. Recommendations are presented for improving the probability of conducting such analyses in the future. (Contains 18 references.) (JDD)

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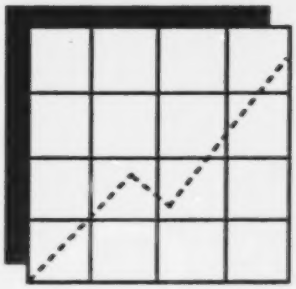

Secondary Analysis of State Assessment Data: Why We Can't Say Much About Students with Disabilities

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The National Center on Educational Outcomes (NCEO), established in 1990, works with state departments of education, national policy-making groups, and others to facilitate and enrich the development and use of indicators of educational outcomes for students with disabilities. It is believed that responsible use of such indicators will enable students with disabilities to achieve better results from their educational experiences. The Center represents a collaborative effort of the University of Minnesota, the National Association of State Directors of Special Education, and St. Cloud State University.

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Abstract

Recent state and national education reform initiatives have focused on outcomes and quantifiable data. The measurement of educational indicators is playing a central role in the current wave of reform as various groups seek to produce policy-relevant information on the educational performance and status of children and youth in our schools. This report summarizes activities of the National Center on Educational Outcomes (NCEO) directed at producing a report on the status of students with disabilities from the secondary analysis of state collected achievement data. Although more than half of the 50 states reported that large-scale achievement data were available for some students with disabilities, potentially usable data were obtained from only six states. Numerous difficulties were encountered in attempts to collect and aggregate state achievement data on students with disabilities. It was concluded that it is currently not possible to produce a synthesis report on the achievement status of students with disabilities from aggregated state data bases. Recommendations are presented for improving the probability of conducting such analyses in the future.

Secondary Analysis of State Assessment Data: Why We Can't Say Much About Students with Disabilities

The National Center on Educational Outcomes (NCEO) for students with disabilities was established in October, 1990 to work with state departments of education, national policy-making groups, and others to facilitate and enrich the development and use of indicators of educational outcomes for students with disabilities. It is believed that responsible use of indicators will enable students with disabilities to achieve better results from their educational experiences.

One of the four major strategic goals of the NCEO is to enhance the availability and use of outcomes information in decision making at state and federal levels. A variety of activities are subsumed under this broad goal. Two activities focus on determining the feasibility of extracting quality and credible policy-relevant information on the educational status and performance of students with disabilities from state and national data collection programs (McGrew, Spiegel, Thurlow, Ysseldyke, Bruininks, & Shriner, 1992). The primary goal is to produce synthesis reports that describe the educational outcomes of children and youth with disabilities based on the secondary analysis of data in existing state and national data collection programs. A complete description of the NCEO's activities in the area of secondary analysis of data from state and national data collection programs can be found in a separate NCEO report (McGrew, Spiegel, Thurlow, Ysseldyke, Bruininks, & Shriner, 1992).

NCEO findings related to the analysis of national data collection programs (e.g., the National Assessment of Educational Progress-NAEP) have been reported (McGrew, Algozzine, Spiegel, Thurlow, & Ysseldyke, 1993; McGrew, Spiegel, Thurlow, & Kim, 1994; McGrew, Thurlow, Shriner, & Spiegel, 1992; McGrew, Thurlow, & Spiegel, 1993). Our review showed that although many important outcome indicators for individuals with disabilities are included in existing national data collection programs, secondary analyses of the data gathered by these programs is limited by the significant exclusion of students with disabilities and the variable identification of these individuals in the data bases.

This report describes the NCEO's efforts to secure and conduct secondary analyses of data collected by large-scale state assessment programs.

The Current Context: Measurement-Driven Education Reform

Our nation is becoming "increasingly dependent on statistics for policy analysis and decision making" (Andrew, 1984, p. 51); "school reform has riveted national attention on the numbers" (Hanford & White, 1991). Reform initiatives throughout the educational system are shifting the focus toward outcomes and quantifiable data. With increasing frequency, the data needed to monitor and evaluate education reform activities are being drawn from state and national data collection programs.

During the current wave of reform, state education agencies (SEAs) are being asked to do more than just keep track of the number of students enrolled or how much money was spent per pupil. SEAs are being pushed to look at the outcomes achieved by students within their educational systems. This trend is evident in the move toward publishing state comparisons from the National Assessment of Educational Progress (NAEP) Trial State Assessment, the Scholastic Aptitude Test (SAT), and others. It is also evident in the increased number of reports like those published by the Council of Chief State School Officers (CCSSO), which describe how states are doing in various aspects of education. There is clearly a press for policy-relevant information about the performance of students in our educational system.

In addition to the general education reform movement, recent state and national reform initiatives in special education (Skrtic, 1991) have resulted in increased interest in outcomes information. Since the passage of PL 94-142 in 1975, there has been more than a decade of evaluation studies that have focused primarily on the issue of educational access for students with disabilities and implementation of the processes embodied in the law. Increasingly the question of "where's the beef?" has been asked from both within and outside of special education. Focus has recently turned toward evaluating the outcomes of special education, or, "where are the data?" on effectiveness (DeStefano & Wagner, 1991).

Current State Activities

In NCEO surveys of state activities in the assessment of educational outcomes (NCEO, 1992, 1993, 1994) we found that there are only a few state-level special education data collection efforts, other than special post-school status studies, that regularly gather outcome data on students with disabilities. Most state outcomes information is generated from large-scale general education assessment programs in which some students with mild disabilities may participate. Thus, the only potentially useful source of outcomes data for students with disabilities that might be aggregated across states are the large-scale general education assessment programs. In particular, given that almost 90% of all states collect some form of achievement data (NCEO, 1994), the secondary analysis of state achievement outcome information might produce useful information on the achievement outcomes of some students with disabilities.

In this report we focus on the feasibility of aggregating achievement outcome information across large-scale state general education assessment programs. Our original purpose was to produce policy-relevant reports on the educational status of students with disabilities.

Method

Sample

In the Spring of 1991, state directors of special education or their designees responded to the annual NCEO national survey of state special education outcomes activities (NCEO, 1992). This survey was used to gather information on state efforts in the areas of federally-reported data, assessment of outcomes, inclusion of students with disabilities in state assessments, state assessment needs and highlights, activities in selected outcome areas, and practices, programs, and plans related to outcomes.

In the initial annual survey, 49 of the 50 states reported that some students with disabilities took part in their general education large-scale achievement assessments. These state assessments typically varied from the administration of nationally-normed commercial achievement tests (e.g.,

Stanford Achievement Test) to state-developed norm-referenced or minimum competency exams. Slightly more than half of the 50 states (n=27; 54%) indicated that students with disabilities could be identified in their data sets. In other words, some variable was present in the state data base that indicated each student's special education status. These 27 states were the initial sample selected for inclusion in the current investigation.

Data Gathering Procedures

Individual follow-up phone calls were made by the NCEO staff to the 27 identified states to inquire about the possibility of the state providing a copy of its large-scale achievement data base to the NCEO. The individuals contacted were those working in state divisions or departments responsible for collecting the large-scale assessment data. While some state personnel were working within the state Special Education division and some within the General Education division, most states had separate divisions under the Department of Education umbrella that were designated as responsible for the large-scale student data collection program. The individuals contacted were from departments with titles such as: Pupil Accountability; Assessment, Testing and Evaluation; State Testing and Evaluation Center; Assessment and School Information, Special Programs Division; Division of Accountability; Student Performance Assessment; Bureau of Statewide Assessment; Special Education Services; and the Division of Research, Evaluation, and Assessment.

For states that indicated a willingness to provide the NCEO a copy of their data files, follow-up calls were completed to ask specific questions about cost, type of computer format and medium, and the time it would take for the NCEO to acquire the data. For those states that responded positively to this initial contact, a formal letter was sent requesting a copy of the relevant computer data files. The NCEO request described the purpose of the activity and the data privacy safeguards that would operate during the NCEO's use of the data. All states were assured that no NCEO reports based on the analyses of the data would identify their state, and that the primary focus would be to aggregate data across states.

Upon receipt of each state's data files, the files were converted (if necessary) to a usable format. Descriptive analyses and file verification runs (Fortune & McBee, 1984) were completed for each data set to confirm the accuracy of the data and to determine the degree of confidence that could be placed in the data contained in each data file. Information regarding each state data base was sought in the areas of:

- special education categories used to identify students with disabilities
- grades assessed
- domains assessed (e.g., reading, mathematics, etc.)
- total sample size and size of subsamples of students with disabilities
- type of assessment (norm referenced or minimum competency)
- metric or scale used to report the assessment results

Results

Response to NCEO Request

Of the 27 states originally identified as having potentially useful data for secondary analysis, the NCEO was able to secure copies from only six states (n=6; 22%). The ability to secure data from 6 of the 50 states reflects a success rate of only 12%. The reasons the NCEO was unable to secure data files from the other 21 states are summarized in Table 1.

Although most of the identified states included students with disabilities to some extent in their statewide testing programs, personnel in six states indicated that they were not able reliably to identify and disaggregate the data for these students. Personnel in five states simply did not respond to the NCEO's repeated requests. Contrary to the information provided to the NCEO during the annual survey of states, personnel in three additional states indicated that no achievement data had been collected. Usually, this discrepancy resulted when the respondent to the original state survey interview indicated that such data were available, but follow-up with the state person with direct responsibility for collecting the data indicated that the original survey information provided was not accurate. Personnel in three states indicated that their data were only available at an aggregated state level, and one state voiced a concern about confidentiality as the reason for not sharing its data. For one state, the cost of securing a copy of the file was prohibitive. Finally, although two additional states provided data files, they were found to be either unreadable or, as a result of data verification procedures, were suspected to contain errors.

Table 1

Reasons Why Data Base Files Could Not Be Obtained for 21 of 27 States

Reason	Number of states
Unreliable or no coding of students with disabilities in data file	6
Unreponsive to NCEO requests	5
No achievement data gathered for students with disabilities	3
Aggregate and not individual data available	3
Data file was unreadable or appeared to contain errors	2
Confidentiality concerns expressed by state	1
State wanted to charge an excessive acquisition cost	1

Analysis of Received Data Bases

The computer data files and related documentation provided by the six states were reviewed to ascertain the degree to which secondary data analysis of the aggregated data was feasible. The first analysis focused on the type of assessment information that was available across grades. A summary of the six states by the academic domain assessed, grade level assessed, and type of assessment (norm-referenced or minimum competency tests) is presented in Table 2. A review of Table 2 indicates that all state data bases included information in the academic domains of reading and mathematics. Four of the six state data bases included information about writing or language. One state data base included information about other academic areas (e.g., social studies, science).

Five of the six state-provided data sets included scores from state-specific minimum competency (MC) tests. Aggregation across states within grade levels was determined not to be feasible given that even if the most common assessment format (MC) was used, at best, data were available for only 1 to 2 states at any specific grade. This reflects only 2% to 4% of all 50 states.

Further complicating any potential aggregated secondary analysis was the finding that each state's MC test had its own unique scaled score, and that these were not comparable across states. In addition, of the two states that provided norm-referenced (NR) scores that allowed for relative standing comparisons (e.g., percentile ranks), one provided scores based on a national norm group while the other provided locally normed scores based on over 60 different assessment tasks. The use of data from assessment instruments based on two different types of norm-referenced groups and four different minimal competency scales presents an almost impossible situation in any attempt to aggregate or informally compile results across the six states.

A second complication for the aggregation of data across states was inconsistency in the identification of students with disabilities in the state data bases and the exclusion of many students with disabilities. This became evident when the most optimal aggregation strategy was examined. Based on the results summarized in Table 2, it was determined that the largest amount of information possible (5 states) would be to aggregate MC results (most likely percent of students with disabilities above and below each state's MC criterion score) in reading and/or mathematics

Table 2

Analysis of Received Data Bases by Assessment Domains, Grade Level Assessed, and Type of Assessment

Grade	Reading		Math		Writing/ Language		Other		Number of States	
	NR	MC	NR	MC	NR	MC	NR	MC	NR	MC
3	A	-	A	-	A	-	-	-	1	0
4	-	BE	-	BE	-	E	-	E	0	2
6	-	F	-	F	-	F	-	-	0	1
7	-	B	-	B	-	-	-	-	0	1
8	A	DE	A	DE	A	E	-	E	1	2
10	C	BC	C	BC	-	C	-	-	1	2
11	-	E	-	E	-	E	-	E	0	1
12	A	-	A	-	A	-	-	-	1	0
Number of States	2	5	2	5	1	3	0	1	-	-

Note: Letters represent individual states (A-F). NR = norm-referenced; MC = minimum competency. State "F" also provided data for grades 7 and 8. However, the students in these grades were students who had failed the minimum competency exam in grade 6, and thus represented biased samples.

for students with mild disabilities. Often only a portion of the student population, usually those students with mild disabilities, is included in large-scale state and national assessments. Thus, the identification of students with mild disabilities (which comprise approximately 80% to 90% of the student disability population) (Reschly, 1987) in the state MC reading and math data bases was examined. The results are presented in Table 3.

A review of Table 3 indicates that for each of the four federal disability categories examined (viz., learning disability, mental retardation, speech impairment, serious emotional disturbance), only one state data base provided for the identification of each disability at most grade levels. Two states provided for the identification of the four disability categories at grade 10. Two state data base files included no categorically based disability variables.

Even the correspondence between the two states at grade 10 does not insure comparability of identified groups across states since some states provide for differentiation within categories (e.g., mental retardation) by level of disability (e.g., educable, trainable, severe), while others use a global mental retardation category. Differences in the operationalization of similar variables in different data bases is a problem frequently encountered in secondary data analysis (Kiecolt & Nathan, 1985). Even if these problems were ignored, the production of outcome reports for students with disabilities at any specific grade level would be based on only 1 or 2 of the 50 states. Generalizing to all 50 states from less than four percent of the states is very problematic.

Even if all the above problems were ignored and an attempt was made to aggregate all MC results collapsed across all grades and all special education disability categories, serious problems in the representativeness of the results are present. Based on either the sample size documentation provided by each state (combined with the annual state special education child count) or the results reported for the six states in the annual state survey, estimates were made of the proportion of the student population with disabilities that was excluded from the data bases. It is estimated that of the five state MC data bases reviewed, most include only 1/4 to 1/2 of each state's student population with disabilities. As is often the case in secondary data analysis, sample comparability would be a major concern. In any attempt to aggregate or compare the data from different state data

Table 3

Number of States that Provided Reading and Mathematics Minimum Competency Data that Identified Students in Four "Mild" Disability Categories by Five Grade Levels

Grade	Disability Category			
	Learning Disability	Mental Retardation	Speech Impairment	Serious Emotional Disturbance
4	1	1	1	1
6	1	1	1	1
7	1	1	1	1
8	1	1	1	1
9	2	2	2	2

Note. The information in this table comes from five states (B, C, D, E, F) referred to in Table 2.

files, significant and variable rates of exclusion of students with disabilities would be found. The pooling of small subsamples from large independent data collection programs (in this case state data bases) does not guarantee a representative sample and often results in significantly increased sampling error (Kiecolt & Nathan, 1985). Generalization to the population of students with disabilities in each state, let alone for the nation, would be prone to serious error.

Discussion

The production of recurring, informative, and credible policy-relevant information on the achievement outcomes of students with disabilities from the secondary analyses of recurring data in large-scale state assessment programs currently is not possible. This conclusion is similar to that reached when attempts have been made to conduct secondary analyses of national data collection programs (McGrew, Algozzine, Spiegel, Thurlow, & Ysseldyke, 1993; McGrew, Spiegel, Thurlow, & Kim, 1994; McGrew, Thurlow, Shriner, & Spiegel, 1992; McGrew, Thurlow, & Spiegel, 1993). Given that many of the current education reform activities use measurable indicators from large-scale assessments as the index of progress, the evaluation of the education of most students with disabilities is being short-changed.

In the current investigation we found that although over half of the 50 states reported the availability of large-scale achievement data on some students with disabilities, we were only able to secure potentially usable data from six (12%) states. Numerous difficulties were encountered in obtaining large-scale assessment data bases from states that included some students with disabilities. These problems included simple nonresponse to requests for data, concerns about confidentiality, computer files with suspect or unreadable data, excessive acquisition costs, and unreliable identification of students with disabilities in the data bases.

Secondary analysis of the limited number of state data bases that were received was deemed inappropriate due to problems with (a) sparse data at individual grade levels even after aggregation, (b) noncomparability of types of data (national vs. local norm-referenced scores; state-specific minimum competency scales), (c) variable or no identification of student disability characteristics

across data bases, and (d) significant and variable exclusion of large proportions of students with disabilities in the large-scale state assessments.

The conclusions reached in this report should be not construed as a general indictment of most state assessment activities. It is important to recognize that the problems encountered in this investigation are due to attempts to use data bases originally developed for a different purpose. Most large-scale state assessment programs provide extremely important, reliable, and valid information for general education state-level analyses and decision making. Large-scale state assessment programs are designed and operated to meet the unique needs of each state. They typically are not designed or documented to meet the needs of independent researchers who wish to conduct secondary data analyses, especially aggregated analyses across a number of states. Still, improvements are possible in large-scale state assessment programs in the areas of greater inclusion of students with disabilities and the identification of these students in the final data bases.

Some might argue that although limited in scope, cautious analyses of the six state data bases secured by the NCEO might be informative. Such analysis of the obtained data could possibly produce statements such as: "X percent of a portion of 10th grade students identified with learning disabilities in two states demonstrated minimum competency in reading achievement (as defined differently by each state). However, caution must be exercised in generalizing to all states since data were available for only two states (4% of all states), only a portion of students with learning disabilities (most likely the highest functioning students in this category) were included in the analyses, different proportions of all students with learning disabilities were included by each state, and the sampling error in the pooled data set is unknown and may be very large."

We believe that under conditions of national importance, policy decisions should be made on the basis of information that is believable. Statements such as the one above would do little to instill confidence in the results and conclusions. In fact, such statements would most likely generate more arguments about the accuracy of the results, a discussion that would detract from the more important dialogue needed around the educational policy issues that were the focus of the original research questions. Furthermore, the production of such information is simply bad

science and cannot be encouraged. Although many compromises are inevitable in secondary data analysis (McGrew, Spiegel, Thurlow, Ysseldyke, Bruininks, & Shriner, 1992), compromise of good scientific standards is not, particularly if the data are to be used to develop public policy (Bailar, Roger, & Passel, 1982). "It seems preferable to accomplish less with appropriate data than it is to reduce the study's credibility with caveats" (Fortune & McBee, 1984, p.40).

Finally, "given the magnitude of federal and state support for educational programs for students with disabilities, support that reflects the valuing of this population in our society, it is time that this implied value be matched by the commitment of resources to address the numerous political and technical hurdles that must be overcome in order to be able to extract useful and routine information on the educational and quality of life outcomes for individuals with disabilities" (McGrew, Algozzine, Spiegel, Thurlow, & Ysseldyke, 1993, p. 11). Although currently it is not possible to produce routine, quality information regarding the educational outcomes of students with disabilities through the secondary analyses of data gathered through large-scale state assessment programs, this does not mean this approach should be discarded.

Toward the goal of improving the collection and reporting of information from analysis of large-scale state assessment data bases, we offer the following "starting points" for consideration:

1. The most important steps that can be taken are not those that focus on secondary data analysis issues, but steps that would improve the quality of data available on students with disabilities for each state. The implementation of four suggestions within states would go a long way to insuring more and better state data for evaluating the progress of students with disabilities within each state. These suggestions are:

   a. Increase the inclusion of students with disabilities in state data collection programs. This can be done by first increasing adherence to existing guidelines for inclusion of students with disabilities. A second step would be the development of broader and more uniform assessment eligibility guidelines and increased use of assessment modifications for certain students (McGrew, Thurlow, Shriner, & Spiegel, 1992). Recommended guidelines for inclusion and test accommodations are described in detail in a separate NCEO report (Ysseldyke, Thurlow, McGrew, & Vanderwood, 1994).

   b. Include in the background information questionnaire used to collect data on students who participate in a state's large-scale assessment program, additional variables that would better describe those students with disabilities who are included and excluded. An example set of possible variables has been developed and are presented in a separate NCEO report (McGrew, Algozzine, Spiegel, Thurlow, & Ysseldyke, 1993). This additional information would help to determine the generalizability of the data from the students with disabilities who participated in a state assessment to all students with disabilities in specific categories within the state.

c. Increase the consistency of the identification of students with disabilities in the final computer data files. States that currently do not allow for the identification of students with specific disabilities in their final data sets should consider adding such variables to their data files.

d. Consider expanding the recurring state data collection programs to include other outcome domains besides academic achievement. Important outcome information in such domains as personal and social adjustment, responsibility and independence, physical health, contribution and citizenship, and satisfaction would provide a more comprehensive picture of the status of all children. More importantly, assessments in many of these non-achievement domains would not consist of paper-and-pencil "tests," but can be gathered through other methods such as administrative record reviews and third-party informants (e.g., parent and teacher surveys). For example, many large-scale national assessment programs directed by the National Center for Education Statistics (NCES) and the National Center on Health Statistics (NCHES) make routine use of these data gathering methods. In many cases, data can be gathered for almost all students with disabilities on the relevant measures since actually completing a test or survey independently by the student is not required. States are encouraged to review the NCEO's comprehensive conceptual models of outcome domains and indicators that address many of these domains at different points during a student's development (e.g., early childhood; grade 4, 8, and 12, post-school).

2. The second set of suggested steps are those that would increase the probability of conducting secondary analysis of aggregated state data base information for students with disabilities. These general suggestions include:

a. Initiate a dialogue among appropriate state assessment personnel (e.g., state data managers) on the feasibility of using a common set of data gathering and reporting strategies, guidelines, and/or standards that might produce more common or related data elements specific to students with disabilities across state assessment programs. Cooperative efforts similar to those that produced the Standards for Education Data Collection and Reporting (SEDCAR) (NCES, 1991) might be particularly worthwhile.

b. For states that include their state's disability-specific categorical variables in their data bases, disability variables that often differ from the federal special education categories, methods should be explored that would allow for the development of "cross-walk" procedures for the conversion of state disability variables to the approximate federal categories. Increasing the number of states that can provide state-to-federal disability specific variable conversions would increase the feasibility of producing aggregated state reports.

c. As mentioned in the first suggestion, states should explore the advantages of adopting the inclusion and assessment accommodation guidelines for students with disabilities that have been developed by the NCEO in cooperation with other state and national groups and individuals. Similar consideration should be given to including the additional background variables for describing students with disabilities in large-scale assessment programs. The increased adoption of these suggested methods and procedures, with or without state-specific modifications, would increase the comparability of the resulting samples of students with disabilities across state data collection programs, an important issue in any future attempt to conduct secondary analyses of aggregated state data.

References

Andrew, L. D. (1984). Using the higher education general information survey. In D. J. Bowering (Ed.), Secondary analysis of available data bases (pp. 51-71). San Francisco, CA: Josey-Bass.

Bailar, B. A., Roger, A. H., & Passel, J. S. (1982). The quality of federal censuses and survey data. Review of Public Data Use, 10, 203-218.

DeStefano, L., & Wagner, M. (1991). Outcome assessment in special education: Lessons learned. Champaign, IL: University of Illinois at Urbana-Champaign, SRI International.

Fortune, J. C., & McBee, J. K. (1984). Considerations and methodology for the preparation of data files. In D. J. Bowering (Ed.), Secondary analysis of available data bases (pp. 27-49). San Francisco, CA: Josey-Bass.

Hanford, T., & White, K. (1991, June). Reform by the numbers. The American School Board, 178(6), 14-16.

Kiecolt, K. J., & Nathan, L. E. (1985). Secondary analysis of survey data. Beverly Hills, CA: Sage.

McGrew, K. S., Algozzine, B., Spiegel, A. N., Thurlow, M. L., & Ysseldyke, J. E. (1993). The identification of people with disabilities in national data bases: A failure to communicate. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

McGrew, K. S., Spiegel, A. N., Thurlow, M. L., & Kim, D. (1994). Matching information in national data collection programs to a model of school completion outcomes and indicators. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

McGrew, K. S., Spiegel, A. N., Thurlow, M. L., Ysseldyke, J. E., Bruininks, R. H., & Shriner, J. G. (1992). Outcomes for children and youth with disabilities: Secondary analysis of national data collection programs. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

McGrew, K. S., Thurlow, M. L., Shriner, J. G., & Spiegel, A. N. (1992). Inclusion of students with disabilities in national and state data collection programs. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

McGrew, K. S., Thurlow, M. L., & Spiegel, A. N. (1993). An investigation of the exclusion of students with disabilities in national data collection programs. Educational Evaluation and Policy Analysis, 15, 339-352.

NCEO (1992). State special education outcomes 1991. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

NCEO (1993). State special education outcomes 1992. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

NCEO (1994). State special education outcomes 1993. Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.

NCES(1991). SEDCAR: Standards for Education Data Collection and Reporting. Washington, DC: National Center for Education Statistics.

Reschly, D. J. (1987). Learning characteristics of mildly handicapped students: Implications for classification, placement, and programming. In M. C. Wang, M. C. Reynolds, & H. J. Walberg (Eds.), Handbook of special education: Research and practice (Volume 1) (pp. 35-58). New York: Pergamon Press.

Skrtic, T. M. (1991). Behind special education: A critical analysis of professional culture and school organization. Denver: Love Publishing.

Ysseldyke, J. E., Thurlow, M. L., McGrew, K. S., & Vanderwood, M. (1994). Making decisions about the inclusion of students with disabilities in large-scale assessments (Synthesis Report 13). Minneapolis, MN: National Center on Educational Outcomes, University of Minnesota.